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Year: 2018

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## **Inflammatory Bowel Disease in Travelers**

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Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-158496>

Journal Article

Published Version

Originally published at:

Rogler, Gerhard (2018). Inflammatory Bowel Disease in Travelers. *Gastroenterology hepatology*, 14(6):377-379.

# ADVANCES IN IBD

Current Developments in the Treatment of Inflammatory Bowel Disease

Section Editor: Stephen B. Hanauer, MD

## Inflammatory Bowel Disease in Travelers



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### **G&H** Why are inflammatory bowel disease patients at higher risk for infection, including opportunistic infection?

**GR** The risk of infection is higher in patients with inflammatory bowel disease (IBD) than in the general population. This includes opportunistic infections that can be contracted while traveling, as well as infections that may occur anywhere, such as *Clostridium difficile* infection and cytomegalovirus colitis. One reason for the increased risk of infection is that many IBD patients are on immunosuppressive or corticosteroid therapy. Both therapies reduce the activity of the immune system, meaning that the defense against invading microbes is reduced and that the microbes can better proliferate and infect cells. Another reason is that when IBD patients have active disease associated with an impaired mucosal barrier function, they are at increased risk of opportunistic infections. An inflamed gut is a site of leakage of bacteria, fungi, or viruses into the body, which increases the risk of developing an infection.

### **G&H** What are some of the common infections, particularly opportunistic infections, for which traveling IBD patients may be at risk?

**GR** Infectious risks depend upon the particular area being visited. For example, in Mexico and countries in Central America, there is a high risk of developing *Escherichia coli* infection and subsequent enteritis. In contrast, there is a high prevalence of tuberculosis in India, Pakistan, Afghanistan, and certain areas of South Africa. Even within a

country with a high risk of an opportunistic infection, the risk will depend upon the particular areas being visited. For example, the risk of acquiring an infection is usually lowest in tourist areas. In addition, infectious risks may change every few weeks. For instance, there is currently

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a high risk of yellow fever in several countries in Africa and South America, even in some cities that were free of this disease in the past (eg, Rio de Janeiro, São Paulo). Generally speaking, in developed countries, there is not a high risk of opportunistic infections.

Thus, I recommend that every IBD patient (or any patient on immunosuppressive therapy) who is planning to travel should visit a travel medicine center or specialist to learn which infections may be encountered in the area(s) being visited (eg, in addition to the abovementioned infections, infections may include malaria, enteric fever, rabies, Japanese encephalitis, and tick-borne encephalitis) and what preventive measures (particularly vaccines) should be undertaken. Education about the risks of traveling and the need for vaccination is very

important, but often not covered well enough. General gastroenterologists often overlook these issues, thinking that they are too specific and complicated to deal with. In addition, it is difficult for gastroenterologists who do recognize the importance of these issues to always be updated, so visiting a travel medicine center or specialist is vital for patients to obtain the most recent and effective advice for travel.

#### **G&H** What vaccines are recommended for IBD patients before they travel?

**GR** First of all, it is important to check that IBD patients have received all routine age-appropriate vaccines, such as for hepatitis A and B; human papilloma virus; meningococcus; and measles, mumps, and rubella. Routine vaccinations should also include pneumococcal vaccination and an annual influenza vaccination. IBD patients should receive varicella-zoster vaccination before undergoing immunosuppressive therapy. In addition, IBD patients who travel a lot should probably receive yellow fever vaccination even if they do not have specific traveling plans within the next year because this vaccination is difficult to administer once patients start immunosuppressive therapy. Finally, specific vaccines may be recommended for travel to certain areas, which is why it is important to visit a travel medicine center or specialist to learn which vaccines are needed and which are not.

#### **G&H** How successful is vaccination in IBD patients?

**GR** Several studies have shown that the success rate of a vaccination is a little lower in patients on anti-tumor necrosis factor (TNF) therapy (with a difference of approximately 10% reported). With respect to the duration of the vaccination, I am not aware of any data showing that the protection is shorter in immunosuppressed patients.

#### **G&H** How safe are live vaccines in immunosuppressed IBD patients?

**GR** In Switzerland, a recent recommendation was made on behalf of the Federal Advisory Commission on Immunisation and was endorsed by the Swiss Society for Gastroenterology that immunosuppressed patients who need a live vaccine can receive it in certain situations. For example, if an immunosuppressed IBD patient needs yellow fever vaccination, an inactivated vaccine, such as for influenza, should be given first. If the patient's response is sufficient to that vaccination and his or her T helper cell count is above 200, then in special situations

a live vaccine can be given at that point in centers with experienced doctors. Otherwise, it is recommended that patients wait at least 3 months after cessation of

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immunosuppression to receive a live vaccine, or that they wait at least 4 weeks from the time of the vaccination before they can start immunosuppressive therapy.

#### **G&H** What preventive measures can IBD patients use while they are traveling?

**GR** Travel medicine centers and specialists can offer IBD patients many useful traveling recommendations. For example, IBD patients should be advised on proper hygiene, such as only eating fruits or salads that they know have been washed with clean water, and they should take care to avoid contaminated water. However, adherence to these recommendations is often low.

#### **G&H** Are there also recommendations on how to avoid insect or animal bites that could cause infections?

**GR** Yes, this is another important aspect of prevention. The best way to avoid yellow fever, as well as Zika fever and Dengue fever (the latter 2 of which there are no vaccines presently available for), is to use insect repellent. However, not all repellents are effective. In fact, a Swiss study examined 10 insect repellents and found that only 3 were effective. Thus, before recommending a repellent, it is important to know its contents and to make sure that it has been tested and is effective. This information may change, so a travel medicine center should be visited for the most up-to-date recommendations.

#### **G&H** Is traveler's diarrhea a particular concern in traveling IBD patients?

**GR** Yes, traveler's diarrhea is a frequent problem in these patients. My colleagues and I usually give our IBD patients who are traveling a prescription for ciprofloxacin and metronidazole, and tell them to take a package of each on their trip. If the patient has diarrhea for more than 48 hours, he or she should take both drugs. Most

of our patients have already taken these drugs at some point of their disease course, so we know that they have no allergies and can tolerate the drugs.

I also recommend that patients take preventive antibiotics if a patient has a fever for several days. However, if it is possible to go to a hospital, I suggest that the patient first see a doctor for fever or diarrhea, and then use the prescriptions I gave him or her. In addition, my institution has a monitored e-mail address that responds to questions within 24 hours. If a problem is not urgent, I tell patients to send an e-mail, especially if a doctor in another country recommends an antibiotic.

### **G&H** Can any infection, including opportunistic infection, trigger IBD flares or cause relapse of IBD?

**GR** The literature is contradictory on this issue. In my opinion, the answer is yes.

### **G&H** Can air travel cause IBD flares?

**GR** My colleagues and I are examining this issue because some of our IBD patients have been telling us that they always develop flares on long-distance flights. Therefore, we asked patients whether they ever experienced problems after long-distance flights. We found that indeed there were more IBD flares after high-altitude travels and long-distance flights. Thus, we are now trying to determine whether giving patients who report problems after airplane flights and high-altitude travels a prophylactic treatment of topical corticosteroid budesonide for 3 days is effective for the prevention of IBD flares via objective parameters, such as calprotectin measurement.

### **G&H** Is it known why there might be a connection between air travel and IBD flares?

**GR** My colleagues and I published a paper recently about a possible reason that hypoxia could induce flares of IBD. However, more research is needed to learn about changes in the microbiota that occur on long-distance flights.

### **G&H** Should any IBD patients completely avoid travel to certain areas because of the risk of infection?

**GR** I do not think that IBD should be a reason for changing someone's life. Doctors should find ways to adapt their recommendations to the requests of patients. We should not intervene too much in our patients' lives because of safety recommendations. For example, I had a patient on immunotherapy who wanted to go to a country with a high risk of tuberculosis. We discussed what she should do if she developed a fever, I gave her a tuberculosis test to take on the trip, and I told her to find a hospital where the test could be taken. It was not ideal for a patient on an anti-TNF agent to go to an area where tuberculosis has a prevalence of approximately 15%, but this was a trip that she definitely wanted to take. She was there for 3 months and came back without any signs of Crohn's flare or infection.

Nevertheless, there are some areas that are a good idea to avoid, if possible, due to the significant risk of infection. For example, visits to areas with high prevalence of tuberculosis, such as favelas in Brazil or townships in South Africa, are not the best idea (besides the ethical aspects of such tourism), as well as high-altitude tours in Nepal (where there is a high prevalence of tuberculosis, Shigella infections, and typhoid fever).

*Dr Rogler has no relevant conflicts of interest to disclose.*

### **Suggested Reading**

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